Special Circular Number 16

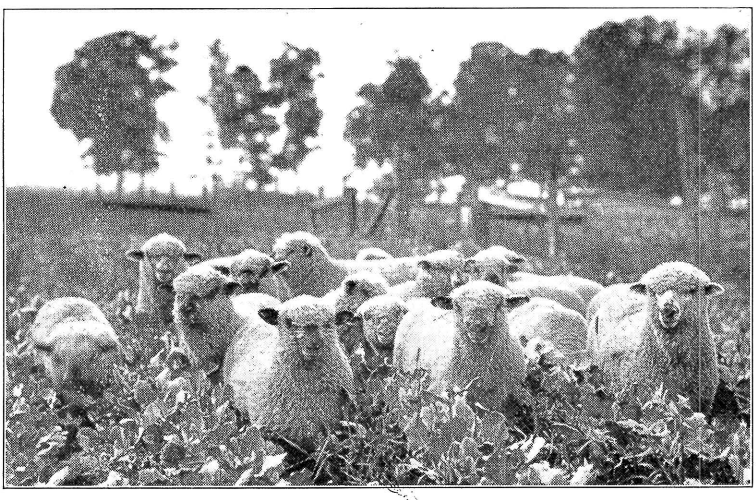
OHIO AGRICULTURAL EXPERIMENT STATION

LAMB FEEDING EXPERIMENTS

D. S. Bell

LIVESTOCK DAYS—1929

Wooster, April 19
Kenton, April 22
Columbus, April 24
Cincinnati, April 26



A COMPARISON OF WESTERN, NATIVE MUTTON, AND NATIVE FINE-WOOL LAMBS AS FEEDERS

In previous tests, thin but thrifty native mutton lambs, which were treated for stomach worms before being started on their fattening ration, made as rapid and as economical gains as good to choice western feeding lambs. In all of these tests 30 or fewer lambs constituted an experimental unit. A question frequently asked is whether a similar record would be made by native lambs if they were fed in groups of 100 or more. Some lamb feeders hold the opinion that the native mutton lamb, particularly, would not do well if the number in the group was large enough to promote crowding. In order to answer this question 100 head each of western lambs, native mutton lambs, and native fine-wool lambs, were put to work in the lamb-feeding lots of the Ohio Experiment Station.

The western lambs used in the test were Montana white-faced lambs, largely of Rambouillet breeding, shipped direct from the range. The native mutton lambs were secured on the Cleveland Stock Yards, and were said to be representative of the type of native mutton feeding lambs that that market supplied on order to lamb feeders. Delaine-Merino lambs from Harrison County, Ohio, made up the group of native fine-wool lambs used in this test. These lambs were a thrifty lot and were shipped direct from the farm to the feed lots of the Experiment Station.

Identical feeding quarters were provided for each group in a "one-side-open" shed. Each group of lambs was allowed 638 sq. ft. of floor space, which included the floor space occupied by the combination grain and hay racks and the watering tubs. All groups were hand full-fed shelled corn and alfalfa hay twice each day, plus 0.15 lb. of linseed oil cake daily per lamb, and salt free choice. Oats were fed at the start of the test when the lambs were being accustomed to grain feeding.

In order that all lambs would be ready to start on feed at the same time both groups of natives arrived at the feed lot three weeks in advance of the westerns. During this time the natives were treated three times for stomach worms.

A COMPARISON OF WESTERN, NATIVE MUTTON, AND NATIVE FINE-WOOL LAMBS AS FEEDERS

Feeding period—Nov. 28, 1928 to Mar. 20, 1929—112 days	Lot 1 Western lambs (white-faced Montana lambs)	Lot 2 Native mutton lambs (mostly Shropshire and Shropshire crosses)	Lot 3 Native fine-wool lambs (grade Delaine lambs)
Number of lambs per lot	100	100	100
Mortality§	2	4	2
Average weight at start	55.1	55.3	52.3
Average daily gain per lamb	**.345**	**.344**	**.291**
Average ration:			
Shelled corn	1.11	1.06	1.02
Linseed oil cake (pea size)	.15	.15	.15
Alfalfa hay	.93	.96	.93
Feed required for 100 pounds gain:			
Shelled corn	*323.3*	*308.6*	*349.4*
*Whole oats**	*21.5*	*22.0*	*25.8*
Linseed oil cake	*43.5*	*43.7*	*51.6*
Alfalfa hay	*271.1*	*278.5*	*321.1*
Cost of feed for 100 pounds gain‡	$9.87	$9.75	$11.21
Initial cost per 100 pounds in lots	$15.21	$13.12	$14.15
Final value per 100 pounds in lots†	$15.10	$14.76	$14.37
Average weight of fleece	5.3	5.7	7.9
Average value of fleece**	$1.86	$2.20	$2.65
Returns per lamb over feed cost	$2.65	$3.74	$2.44

The feed prices used were as follows: shelled corn $0.84 a bu.; whole oats $0.56 a bu.; linseed oil cake $61.00 a ton; alfalfa $24.00 a ton; salt $20.00 a ton.

*Oats were used in starting lambs on feed.

†Represents average value of all sorts—Pittsburgh valuation less $1.25 per 100 pounds marketing charge.

‡Includes salt not shown in the table.

§Two of the 4 native mutton lambs and the 2 native fine-wool lambs died shortly after arrival at the feed lots. These 4 lambs that died before the actual feeding was started reflect in the column "Initial cost per 100 pounds in the lots." In the financial statements all mortality is charged against the lot in which the deaths occurred.

**Actual net returns when the wool was sold on its merit.

SUMMARY

Native mutton lambs fed in a group of 100 made gains almost as rapidly and more economically than a group of 100 western lambs.

Nine medium and two cull lambs in the native mutton group at the close of the feeding period, together with a lack of uniformity of size, caused the native mutton lambs to be assigned a final value $0.34 per 100 pounds lower than the uniform "all-top-lambs" western group.

The higher market value of the wool from Lot-2 lambs, together with a lower initial cost, amounting to $2.09 per 100 pounds, caused the native mutton lambs to show $1.09 greater return per lamb over feed cost than Lot 1.

The native fine-wool lambs made slower and costlier gains and required more feed for each 100 pounds of gain than either of the other two groups.

Heavier fleeces obtained from the fine-wool lambs aided this group materially so that they were not unprofitable feeding lambs.

The feeding report of Anton Russ, who fed all three groups of lambs, brings out the fact that no one group was sigularly difficult to get onto, or hold at full-feed. Further, that the same general principles of lamb feeding applied equally to each group.

Crowding in the feed lot did not seem to be a factor that affected any group.

The test indicates that under existing market prices for thin and fat native lambs, and if the feeder is willing to give the native lambs the extra attentions which they require, these lambs are profitable feeders; at least for the small operator.

On the other hand, the tests should demonstrate to the producer of thin native lambs that he could realize a greater profit on his sheep operations if he would market fat lambs. Why produce an unfinished product and permit someone else to realize the finishing profit?

A COMPARISON OF A SMALL AND LARGE GROUP OF LAMBS AS AN EXPERIMENTAL UNIT

Incident with the regular lamb feeding experiments conducted this season was a group of 10 western lambs fed in comparison with the group of 100 similar lambs in the main test. The object was to observe the performance of this small group as compared with the ten-times larger group, when the feeding schedule called for the same daily feed allowance per lamb. In order to have the groups comparable the lambs in the group of 10 were selected to represent the average of the 100-lamb group when the test was started.

The results of the test show that the group of 10 lambs made 4.1 percent faster gains and required 4.7 percent less shelled corn, 4 percent less linseed oil cake, and 5 percent less alfalfa for each 100 pounds of gain in live weight than the group of 100 lambs. The smaller group of lambs, therefore, made slightly more efficient use of the feed allowed them. On the other hand, this slight difference is not sufficient to disqualify a small group as an experimental unit. It would seem that within reasonable limits, the smaller experimental groups commonly used would serve as a true index to what could be expected if the number in the lot was greatly increased.

Of course, there would be no justification for feeding lambs under farm conditions in small groups. The extra labor and additional equipment required would cost far more than the increased return the lambs would make, due to their more efficient use of feed in producing gain in body weight.

MORE ABOUT SKIPS

Livestock commission companies located at the principal stockyards throughout the Eastern section of the country often remark about, and speculate as to the cause for, the relatively high number of cull or skip lambs that come to the markets each year. Lambs that fall into this class are extremely thin and emaciated and show considerable age. They usually weigh 50 pounds or less and sell for a very low price—about half that received for top fat lambs.

Previous tests in sheep production at the Experiment Station showed conclusively that well-born lambs could be made to fall into the skip or cull class. These lambs were turned to permanent bluegrass pasture, along with their dams. The lambs were not fed grain and no effort was made to keep the flock free from internal parasites. On the other hand, half-brothers and half-sisters of these "made" skips were profitably finished into all-top lambs by feeding grain and administering the copper sulphate drench at monthly intervals. An interesting feature of this test is the fact that both groups of lambs grazed on the same pasture along with the parasite-infested ewes. Feed and treatment were the factors that made top lambs while the absence of these made skips.

With a desire to learn more about skip lambs and their relation to profitable sheep production, the Experiment Station secured 19 head of 52-pound skip lambs in December 1926 at a cost of $7.00 per 100 pounds, when top lambs were bringing $14.50 at the stockyards. The story of how these 19 cull lambs were made to sell at a premium of 25 cents over the quoted top of the market and return a profit of $135.09 in 142 days was told in the 1927 Livestock Day leaflet.

On October 24, 1928, sixty 45.5-pound skip lambs, costing $9.24 per 100 pounds at Cleveland, arrived at the feed lots of the Experiment Station. These lambs were divided into two groups of 30 each. Both groups were started on a ration of alfalfa hay and mixed grain—4 parts oats, 2 parts bran, 1 part linseed oil cake. Between October 27 and November 26, one group was treated four times for stomach worms, using the copper sulphate solution. On

November 28 both groups were changed onto a fattening ration of shelled corn and alfalfa, both full-fed twice daily, plus .15 pound of linseed oil cake daily per lamb and salt free choice.

Four lambs from the untreated lot and three lambs from the treated lot died during the feeding period of 147 days. In the untreated lot three deaths were attributed directly to parasitic infestation and one death to pneumonia. In the treated group one lamb died from digestive disorders, one from a telescoped bowel, and the third lamb from an injury, probably received at the stockyards, or on the cars in transit.

The grading of lambs at the close brought out another interesting point relative to the value of the treatment.

Of the 26 lambs in the untreated lot at the close of the test 20 graded top lambs, 5 were graded as medium lambs, and 1 was graded as a cull. Of the 27 treated lambs 25 were graded top lambs, 1 a medium lamb, and 1 a cull lamb. These grades indicate that the treatment reduced materially the percentage of half-fat lambs in the lot at the close of the feeding period. The top lambs in both lots, because of their high finish, commanded a premium of 25 cents per 100 pounds over the quoted top for fat lambs.

A financial summary shows that these 60 lambs, with the mortality included, made a total return over feed and marketing charges of $243.65. Neglect cost some sheep producer at least this much money. Cull lambs and profitable sheep production simply do not go hand in hand.